

COASTAL CONSERVANCY

Staff Recommendation
June 20, 2013

SAN FRANCISCO BAY ECOSYSTEMS CLIMATE ADAPTATION ASSESSMENT

File No. 10-027-01
Project Manager: Matthew Gerhart

RECOMMENDED ACTION: Authorization to accept and disburse up to \$315,000 from the Gordon and Betty Moore Foundation to further the Bay Area Ecosystems Climate Change Consortium's development of climate change adaptation practices and pilot projects in the San Francisco Bay Area.

LOCATION: All nine San Francisco Bay Area counties (San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma, Marin), the San Francisco Estuary, and the ocean to the Greater Gulf of the Farallones (Exhibit 1).

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

- Exhibit 1: [Map of the San Francisco Bay Area](#)
Exhibit 2: [BAECCC 5-Year Strategic Plan](#)
Exhibit 3: [Project Letters](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31000 *et seq.* of the Public Resources Code:

"The State Coastal Conservancy ("Conservancy") hereby authorizes acceptance and disbursement of up to three hundred fifteen thousand dollars (\$315,000) from the Gordon and Betty Moore Foundation to further the development by the Bay Area Ecosystems Climate Change Consortium ("Consortium") of climate change adaptation practices and pilot projects."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.

2. The proposed authorization is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, regarding the resource and recreation goals of the San Francisco Bay Area, including the protection, restoration and enhancement of natural habitats and connecting corridors, scenic areas, and other open space resources of regional importance, and the ocean and bay.”

PROJECT SUMMARY:

Staff requests authorization to disburse up to \$315,000 to further the development of climate change adaptation practices and pilot projects by the Bay Area Ecosystems Climate Change Consortium (“BAECCC”). Funds for this work would originate in a grant from the Gordon and Betty Moore Foundation (“Moore Foundation”) to the Conservancy for use in this project, and will be used to contract for professional services that further the Conservancy’s and BAECCC’s climate change adaptation objectives for the next two years. The work will include implementation of BAECCC’s research strategy, management recommendations, and communication efforts; development of shoreline resilience projects, scenario planning resources, and climate policy analysis; and development of a financial strategy for the organization.

BAECCC is a collaborative, multi-jurisdictional organization formed in 2009 for the purpose of integrating resource managers, scientists and policy makers to jointly address the impacts of accelerating climate changes to Bay Area ecosystems, including its uplands, the estuary and the ocean. (See Exhibit 2 for a description of BAECCC’s vision, goals and objectives). The Conservancy is a founding member of BAECCC, with a Conservancy staff member serving as vice chair of BAECCC’s Steering Committee. BAECCC is currently working to secure natural ecological and economic benefits to society by reducing the negative impacts of climate change on the region’s wildlife, habitats and ecosystem functions, while also enhancing the role of natural systems in mitigating those impacts. BAECCC has recently established the following desired outcomes that frame its initiatives:

1. Natural resource managers, scientists, non-governmental organizations, and regulators collaborate to identify climate change impacts to ecosystems and develop climate-smart solutions.
2. A collaborative monitoring network identifies and measures indicators of climate change impact on ecosystem health, regularly summarizes ecosystem and management responses to climate change, and provides information to improve management and projections for future planning.
3. Policymakers and the public understand that healthy ecosystems and nature-based solutions allow for both mitigation and adaptation, and thus are key to addressing the impacts of climate change.
4. BAECCC shares its knowledge with and learns from communities addressing climate change worldwide.

BAECCC has developed expanded capacity and relevant experience in recent years. It has hired its first coordinator, developed a strategic science plan and monitoring framework, and coordinated the Baylands Ecosystem Habitat Goals Technical Update for Climate Change (“*Baylands Goals Update*”). The Consortium has to date leveraged approximately \$5 million in

ecosystem-related climate adaptation funding for the region, focusing and aligning the efforts of diverse partners working in the near-shore ocean, the baylands and the terrestrial uplands. Members are contributing significantly towards BAECCC's objectives, with project examples including:

- Gulf of the Farallones National Marine Sanctuary and the National Oceanic and Atmospheric Administration (GFMN/NOAA) working to develop ocean indicators for climate change as well as technical sea level rise resources for the San Francisco Bay,
- the Bay Conservation and Development Commission (BCDC) furthering its Adapting to Rising Tides project, and
- the Bay Area Open Space Council (BAOSC) and Terrestrial Biodiversity Climate Change Collaborative (TBC3) developing terrestrial climate projections for the region.

BAECCC's work integrates with several of the Conservancy's currently funded initiatives, including work with the BAOSC, the South Bay Salt Ponds Restoration Project, the Living Shorelines Project, and the Conservancy-led *Baylands Goals* Update. The Gordon and Betty Moore Foundation is now considering, and is currently expected by Conservancy staff to approve in July, a \$315,000 grant proposal to fund the work of BAECCC for the next two years.

Under this authorization, the Conservancy would contract for professional service providers to work with BAECCC members to guide and implement ecosystem adaptation for the region in the areas listed below. These professional services will include technical and management tasks.

BAECCC's work will include the following key elements:

- 1) Joint prioritization by Bay Area scientists and resource managers of ecosystem climate change science and management needs in order to align existing adaptation efforts in the region;
- 2) Implementation of BAECCC's Green Resilient Shorelines Initiative to assess changes needed to shoreline policy and permitting, and to develop demonstration projects to test new engineering designs;
- 3) Development and testing of scenario planning resources for the region as a tool to help land managers and scientists move past data paralysis in the face of climate change and to plan in new ways for long-term adaptive management;
- 4) Completion of a policy analysis that will guide efforts to make changes to plans and policies in order to promote climate-smart actions, and;
- 5) Development of a business plan outlining a business model and future funding plan to sustain BAECCC.

A focus of the Conservancy's contribution to the Consortium to date has been the technical update to the 1999 San Francisco *Baylands Goals* report to incorporate an improved understanding of the climate change processes affecting bay habitats (see Project History). The *Baylands Goals* Update is scheduled to be released in early 2014, and will serve as the basis for moving forward with BAECCC's Green Resilient Shorelines Initiative to better coordinate nature-based shoreline resilience projects in the region.

BAECCC members have broad experience in assessing climate change impacts at a regional scale; conducting scientific research and monitoring; developing predictive models to understand possible future changes and prioritize conservation actions; employing, testing, and improving

adaptive management strategies; and conducting outreach to local and regional stakeholders, policymakers and the public. These organizations, in working with Conservancy staff, are therefore highly qualified to bring a comprehensive, proactive and science-based approach to the Bay Area conservation community's evolving response to climate change.

Project History: The *Baylands Goals* project began in 1995, and involved more than 100 participants representing local, state and federal agencies, academia and the private sector over four years. The project galvanized significant support for acquisition and restoration of former baylands, with a goal of adding 60,000 acres of tidal marsh to the 40,000 acres that existed in San Francisco Bay at the time the report was written in 1999.

The *Baylands Goals* report has been a guiding document for wetlands restoration and enhancement around the Bay for the past decade, having contributed to the protection of 40,000 additional acres of baylands to date and having attracted significant funding for implementation of acquisition, protection, and restoration projects. These projects include the former salt ponds in the Napa-Sonoma Marshes, the South Bay Salt Ponds, Hamilton Airfield and Bel Marin Keys Unit V, Cullinan Ranch, Skaggs Island, Bahia, Bair Island, and Sears Point, among others.

Over the past decade, the Bay Area has also emerged as one of the key centers nationally in the development of regional climate science, ecological management strategies, and adaptation policy. Since forming in 2009, BAECCC has worked to coordinate the vast range of federal, state and local efforts developing around climate change adaptation. The Conservancy has also taken a lead in this regard, recognizing the need to address vulnerabilities of projects to sea level rise and other effects of climate change and supporting adaptation planning and pilot project implementation.

In 2010, the Moore Foundation awarded the Conservancy a \$357,000 grant to contract for professional services to administer BAECCC's initial program of activities. At the same time, the Conservancy authorized \$345,000 of its own funding to update the *Baylands Goals*. Since then Conservancy staff has played a lead role in guiding BAECCC's collaborative efforts, providing technical assistance, contract management and coordination expertise. It is expected that Conservancy staff will continue to play this role moving forward. While additional Conservancy funding is not requested at this time, it is expected that in early 2014 the Conservancy will be asked to support initial implementation actions of the *Baylands Goals* Update.

PROJECT FINANCING:

Coastal Conservancy*	\$240,000
Gordon and Betty Moore Foundation	\$315,000
National Oceanic and Atmospheric Administration	\$535,000
Bay Conservation and Development Commission	\$212,000
PRBO Conservation Science/CA LCC	\$100,000
Other BAECCC Member Organizations**	<u>\$463,000</u>
Total Project Cost	\$1,865,000

*Represents already-authorized funding committed to BAECCC-related projects, plus staff time.

** Includes the U.S. Fish and Wildlife Service, U.S. Geological Survey, Bay Area Open Space Council, San Francisco Bay Joint Venture, San Francisco Estuary Partnership, Bay Area Flood

Protection Agencies Association, Nature Conservancy, San Francisco Estuary Institute, National Park Service, and San Francisco Bay National Estuarine Research Reserve (partial list).

All of the funding requested pursuant to this staff recommendation (\$315,000) will come to the San Francisco Bay Area Conservancy Program from the Gordon and Betty Moore Foundation. BAECCC members including PRBO Conservation Science, BCDC, Gulf of the Farallones National Marine Sanctuary/NOAA, USGS and U.S. Fish and Wildlife Service are pledging technical and staff matching participation. Additional match funding is being provided through federal matching funds for BAECCC pilot projects and directly by BAECCC members.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The Conservancy is authorized under Section 31111 of the Public Resources Code to fund and undertake plans and feasibility studies in order to implement Division 21. Additionally, the Conservancy is authorized by Section 31104 to accept financial support from public and private sources, such as the Gordon and Betty Moore Foundation.

Under Section 31113, the Conservancy may undertake projects to address the impacts and potential impacts of climate change on resources within its jurisdiction. In enacting this provision, the legislature declared that the economic and environmental health of the coast depends on its resilience; that cooperation between governmental and private entities is needed to respond to the effects of climate change; and that the Conservancy's participation in addressing the adverse effects of climate change can help maintain property values, aid tourism, protect commercial and visitor facilities, and contribute to the resiliency of the natural and built environments. The proposed authorization will help ensure that government and private efforts to address climate change effects on ecosystems in the nine county San Francisco Bay Area are aligned and coordinated to the greatest extent possible, thereby improving the resilience of the economy and environment of the region to climate change.

This project would be undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation, Public Resources Code Sections 31160-31165, to address resource and recreational goals in the San Francisco Bay Area. Under Section 31162(b), the Conservancy may undertake projects and award grants to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional significance. The proposed authorization will assist the Conservancy and its project partners in meeting these goals by facilitating the identification of significant climate vulnerabilities and development of strategies to address them. Consistent with Section 31163(b), the Conservancy will be supporting public/private partnerships in the San Francisco Bay Area.

This project is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it will inform the incorporation of climate change considerations into projects supported in adopted local and regional plans, (2) it is multijurisdictional, involving all nine Bay Area counties, (3) it can be implemented in a timely way because BAECCC members are ready to proceed with the work proposed, (4) it provides potential benefits (and avoids impacts) that need to be quickly implemented, and (5) it includes matching funds from the Gordon and Betty Moore Foundation, as well as partnering agencies.

Finally, consistent with Section 31165, the Conservancy will be supporting activities that are compatible with the preservation, restoration and enhancement of ocean, coastal and bay resources in order to benefit the San Francisco Bay region.

**CONSISTENCY WITH CONSERVANCY'S
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 7, Objective A** of the Conservancy's Strategic Plan, the proposed project will, in cooperation with public agencies, universities and non-governmental organizations, identify significant climate-related threats, management challenges and priority technical assistance needed to maintain resilient coastal communities and natural resources, thereby enhancing the resiliency of coastal communities and ecosystems to the impacts of climate change.

Consistent with **Goal 10, Objective A** of the Conservancy's Strategic Plan, the proposed project will help identify and prioritize long-term resource and recreational goals for the San Francisco Bay Area, including projects that protect and enhance natural habitats and other open-space land of regional significance, through the incorporation of climate change considerations into natural resource conservation goals and restoration priorities.

**CONSISTENCY WITH CONSERVANCY'S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on November 10, 2011, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** This project is supported by the membership of the BAECCC, a consortium of public land conservation agencies and non-profit organizations (Exhibit 3).
4. **Location:** The proposed project area is the baylands of the nine-county San Francisco Bay Area, as well as adjoining coast and ocean encompassing the Gulf of the Farallones.
5. **Need:** Resource professionals from around the San Francisco Bay Area will donate their time to this project, but Conservancy staff direction is needed to lead the effort in a timely and efficient way.
6. **Greater-than-local interest:** In creating the San Francisco Bay Area Conservancy Program, the legislature designated the San Francisco Bay Area as an area of statewide concern. The assessment and adaptation techniques being developed in the project, as well as the BAECCC collaboration itself, are intended to become models statewide and nationally in the growing field of climate change adaptation.

7. **Sea level rise vulnerability:** The project is designed to specifically assess the vulnerability of bay, ocean, and bayland ecosystems to sea-level rise, and incorporate those concerns into planning for future acquisition, restoration, and management.

Additional Criteria

8. **Urgency:** Climate change is already affecting the coastal and bay resources of the nine-county Bay Area, and effective management solutions and adaptation strategies are needed as soon as possible. This proposed project will help guide future land protection and restoration efforts.
9. **Resolution of more than one issue:** The project is specifically designed to assess multiple and simultaneous climate challenges to bay ecosystems and provide comprehensive adaptation strategies. The collaborative development undertaken in this project will provide capacity for addressing other climate-related concerns in the region, such as issues of habitat connectivity, water supply and quality, and terrestrial-marine linkages.
10. **Leverage:** See the “Project Financing” section above.
12. **Innovation:** BAECCC represents a unique and evolving strategy in collaborative multi-jurisdictional response to climate change.
13. **Readiness:** BAECCC has secured matching funds and is prepared to begin as soon as Conservancy funding is available.
14. **Realization of prior Conservancy goals:** See “Project History” above.
16. **Cooperation:** BAECCC represents a remarkable collaboration among state, federal and local organizations on how to confront the challenges of climate change through innovative, regional efforts.
17. **Vulnerability from climate change impacts other than sea level rise:** The project will assess multiple climate impacts beyond sea level rise, including changes in hydrology, sediment supply, and habitat viability.

COMPLIANCE WITH CEQA: As a planning activity for possible future actions that have not been approved, adopted, or funded, this project is exempt from California Environmental Quality Act (CEQA) review under 14 California Code of Regulations Section 15262. Similarly, the project is exempt from CEQA review under Section 15306, which exempts basic data collection, research, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.